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Cooperative Economic Insect Report

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PLANT PROTECTION AND QUARANTINE PROGRAMS
ANIMAL AND PLANT HEALTH INSPECTION SERVICE
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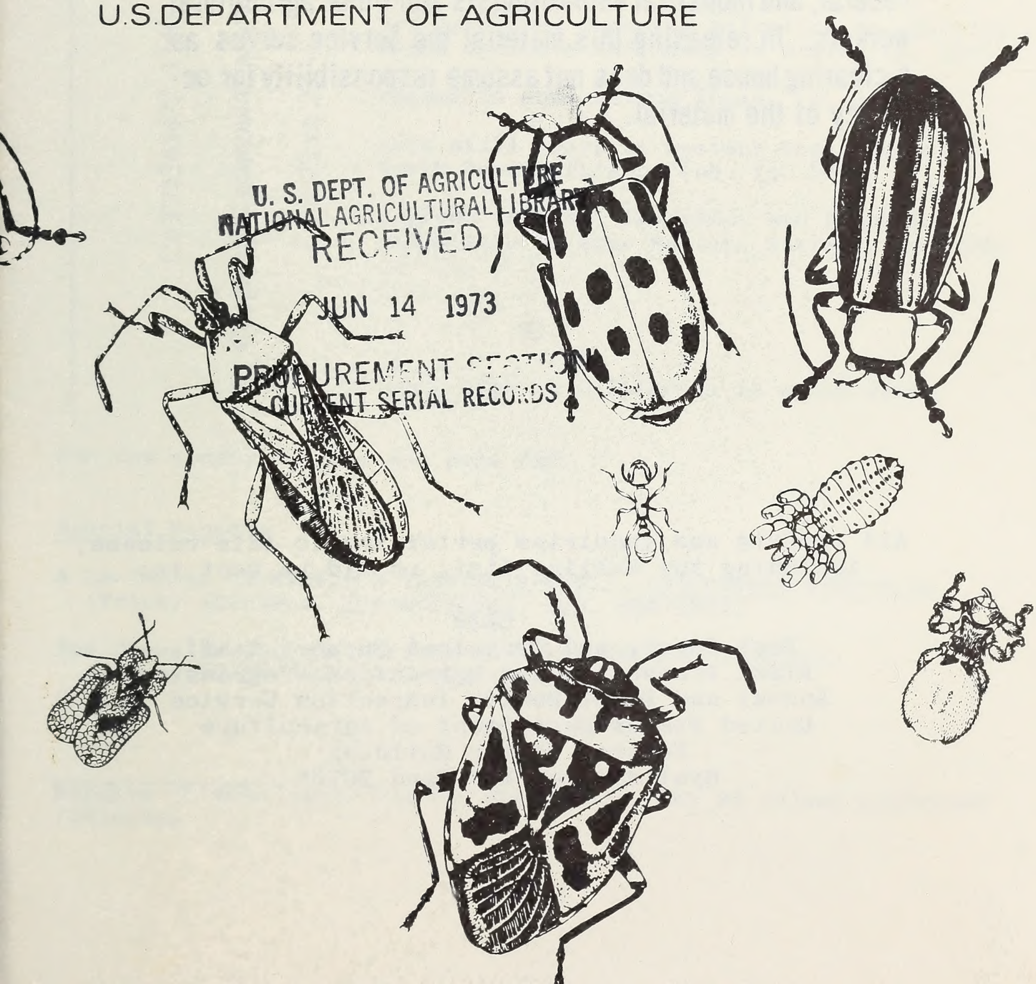

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The Cooperative Economic Insect Report is issued weekly as a service to American Agriculture. Its contents are compiled from information supplied by cooperating State, Federal, and industrial entomologists and other agricultural workers. In releasing this material the Service serves as a clearing house and does not assume responsibility for accuracy of the material.

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Volume 23 June 1, 1973 Number 22

COOPERATIVE ECONOMIC INSECT REPORT

HIGHLIGHTS

Current Conditions

ARMYWORM larvae heavy and damaged sorghum in coastal area of Texas; some controls applied in central Oklahoma. ASTER LEAFHOPPER reported in small grains in North Dakota and Minnesota for first time this season; populations lightest in 20 years in Minnesota. (p. 315).

ALFALFA WEEVIL caused most severe damage to alfalfa ever recorded in Iowa. Damage beyond economic threshold in west-central Maryland. Populations in other areas of Nation increased with damage appearing. Some control by parasites reported. (pp. 317-318).

An ALFALFA WEEVIL complex developed damaging situation on cherries in California. Also damaged apricots and beans in State. (p. 321).

BOLL WEEVIL adults increased in some cotton areas. (p. 319).

PAINTED LADY adult flights still heavy in western area; reported from South Dakota and North Dakota this period. (p. 324).

GRASS BUGS damaged wheatgrass in Utah, Colorado, and Nebraska. GRASSHOPPERS heavy on rangelands in some Western States. (pp. 325-326).

Detection

A THRIPS reported for first time in California is a new State record. (p. 326).

For new county records see page 326.

Special Reports

A Leafminer of Ragweeds (*Ambrosia* spp.), *Calycomyza ambrosiae* (Frick) (Diptera, Agromyzidae). (pp. 329-330).

The Genus *Emmesomyia* Malloch in North America (Diptera, Anthomyiidae). (pp. 331-332).

Reports in this issue are for week ending May 25 unless otherwise indicated.

CONTENTS

Special Insects of Regional Significance.......................315

Insects Affecting

Corn, Sorghum, Sugarcane	316	General Vegetables	320
Small Grains	316	Deciduous Fruits and Nuts	321
Forage Legumes	317	Small Fruits	322
Cotton	319	Forest and Shade Trees	322
Potatoes, Tomatoes, Peppers	320	Man and Animals	323
Cole Crops	320	Miscellaneous Wild Plants	324
Cucurbits	320		

Beneficial Insects...325

Federal and State Plant Protection Programs....................325

Hawaii Insect Report...327

Light Trap Collections...328

A Leafminer of Ragweeds (Ambrosia spp.), Calycomyza ambrosiae (Frick) (Diptera, Agromyzidae)..............................329

The Genus Emmesomyia Malloch in North America (Diptera, Anthomyiidae)..331

Detection..326

ARMY CUTWORM (Euxoa auxiliaris) - OKLAHOMA - Larvae damaged wheat and alfalfa in west-central counties and in Canadian County. (Okla. Coop. Sur.).

ARMYWORM (Pseudaletia unipuncta) - TEXAS - Larvae heavy and damaged grain sorghum in Calhoun and Matagorda Counties. (Cole). OKLAHOMA - Heavy in field of vetch and rye in Carter County. Reported in wheat in Kingfisher County with some fields treated. (Okla. Coop. Sur.). KANSAS - Larvae ranged to one per 10 drill row feet in headed wheat in Labette and Montgomery Counties. None found in headed wheat in Wilson and Neosho Counties. In headed barley in Labette County, larvae averaged 1.6 per drill row foot. (Bell). ILLINOIS - Conspicuous by general absence in lodged spots in wheat fields in usually infested areas of State. Counts much lighter than in 1972; late spring may mean later than usual infestation. (Ill. Ins. Rpt.). KENTUCKY - Infestations absent or very light on barley in Muhlenburg and Metcalfe Counties. (Barnett, Gregory).

VIRGINIA - P. unipuncta larvae in corn in Culpeper County. Averaged one per row foot in 4 fields totaling about 140 acres; fields treated. Corn planted late in Carroll, Pulaski, and Wythe Counties (in mountains), many fields not yet emerged. Populations may become severe next few weeks. Growers urged to make daily checks of no-til corn. Single adult taken in blacklight trap at Blacksburg, Montgomery County, during period May 17-25. (Allen). MARYLAND - Populations in small grain and no-til corn remain below economic levels. Heaviest infestation occurred in 10 acres of barley near Denton, Caroline County; counts of second and third instars in lodged areas ranged 2-6 per square foot. (U. Md., Ent. Dept.).

ASTER LEAFHOPPER (Macrosteles fascifrons) - NORTH DAKOTA - Adults 4 per 100 sweeps in Bowman County winter wheat and 20 per 100 sweeps in Golden Valley County winter wheat. First appearance of season. (Brandvik). MINNESOTA - First of season observed on oats in Houston County May 22; ranged 10-12 per 100 sweeps. This is lowest count in 20 years. (Minn. Pest Rpt.).

BEET LEAFHOPPER (Circulifer tenellus) - CALIFORNIA - Roadside populations and abandoned fields of mustard, Russian thistle, and lambsquarter treated near Kettleman City and Huron; 215 acres of abandoned fields treated as well as 85 miles of roadside weed hosts. In southwestern Kern County, 100 acres of abandoned fields treated in addition to 83 miles of roadside weed hosts. (Cal. Coop. Rpt.).

CORN LEAF APHID (Rhopalosiphum maidis) - KANSAS - Moderate in 80-90 percent of whorls in field of 3-inch milo and in field of 8-inch corn and Johnson grass in Montgomery County. Light in 5-50 percent of whorls of 1 to 1.5-inch milo in Wilson and Montgomery Counties. (Bell). TEXAS - Very light on grain sorghum in Brazos, Grimes, Waller, and Fort Bend Counties. Ranged 0-100 per plant in these counties. Parasitism by small wasps noted. R. maidis populations declined rapidly. Terminal leaves on most infested plants in Fort Bend County with 20-60 parasitized aphids. R. maidis light to moderate on grain sorghum in Coryell, Falls, McClennan, Navarro, and Bell Counties. (Green, Hoelscher).

GREENBUG (Schizaphis graminum) - TEXAS - Continued light in grain sorghum in south-central area. Populations lighter than in 1972. Survey of grain sorghum in Fort Bend County negative in fields examined. Light, widespread populations reported from Guadalupe and McCulloch Counties. (Cole et al.). KANSAS - Winged forms flying into sorghum in some southeast district counties where planting now underway; seedlings emerged in very few fields. Infestations ranged from none in 1-inch milo in Neosho County to high of 1.7 per plant in 3-inch milo in Montgomery County; no obvious damage noted. Sticky traps on Hays Agricultural Experiment Station indicated first flight in area occurred May 20; small colonies detected on volunteer sorghum May 24. Winged greenbugs and small colonies of young on 8-inch Johnson grass in Montgomery County cornfield. Winged forms and immatures averaged 1.5 per drill row foot in field of wheat in this county, but none found in wheat checked in Wilson, Neosho, and Labette Counties. (Bell).

NEBRASKA - S. graminum ranged 1-17 (average 9) per 100 sweeps in 3 wheat fields in Gage, Johnson, and Lancaster Counties. (Koinzan). WASHINGTON - Light to heavy on 200 acres of barley and wheat near Wilson Creek, Grant County. (Foeppel).

SPOTTED ALFALFA APHID (Therioaphis maculata) - NEW MEXICO - Light in alfalfa at Los Lunas, Valencia County. (N.M. Coop. Rpt.).

CORN, SORGHUM, SUGARCANE

EUROPEAN CORN BORER (Ostrinia nubilalis) - WISCONSIN - Dissection of corn stubble in early April revealed 80-85 percent winter survival in areas surveyed. First pupation noted May 10 in sandy area of Dane County. (Wis. Ins. Sur.). ILLINOIS - Development near normal. Some moth emergence in southern third of State. (Ins. Sur. Bull.). INDIANA - Pupation nearly complete as far north as Tippecanoe County; adult emergence began in same area. (Hogg). KANSAS - One female moth, first of season, found in weeds bordering cornfield in Montgomery County. (Bell). DELAWARE - Adults in blacklight traps increased sharply; counts for 7 traps averaged 21. (Burbutis). NEW JERSEY - Some male adults taken in blacklight traps at Thorofare, Gloucester County, and Elmer, Salem County. First collections of season. (Vasvary).

CORN FLEA BEETLE (Chaetocnema pulicaria) - MARYLAND - Infestation on newly emerged corn in Kent, Queen Annes, Talbot, Caroline, and northern Dorchester Counties continued above normal; adults ranged 6-12 per plant. Corn presently outgrowing injury; however, several hundred acres of early sweet corn sprayed to lessen incidence of bacterial wilt. (U. Md., Ent. Dept.). OHIO - Adults light on seedling corn in central area. Ranged 8-10 and 13-15 per 50 plants in Pickaway and Logan Counties, respectively. Lighter on corn in other central counties. Damage neglible. (Fox).

SEEDCORN MAGGOT (Hylemya platura) - NEBRASKA - Destroyed 15 percent of corn stand in Hall County field. (Lundquist).

SMALL GRAINS

ENGLISH GRAIN APHID (Macrosiphum avenae) - OKLAHOMA - Light in wheat in many central, west-central, and southwest counties. (Okla. Coop. Sur.).

ALFALFA WEEVIL (Hypera postica) - NEVADA - Larvae ranged 1-20 per sweep in Jungo and Orovada, Humboldt County, alfalfa seed fields. (Stitt). Ranged 20-150 per sweep in Lovelock area, Pershing County. (Philips). Several fields in Fallon area, Churchill County, had all larval instars in excess of 150 per sweep with heavy damage evident. (Adams). Treatments in progress in these areas and in Smith and Mason Valleys, Lyon and Douglas Counties, respectively. Recent warm weather caused populations to develop rapidly but cool, windy weather latter part of this period retarded larval development and slowed or stopped control applications. (Nev. Coop. Rpt.). UTAH - Adults and larvae increased in Cache County alfalfa. (Davis, Nebeker). Populations increased, light to moderate infestations with damage noted in some fields in Weber County and at Draper, Salt Lake County. (Roberts). NEW MEXICO - Larvae heavy, ranged 30-90 per 25 sweeps of alfalfa at Los Lunas, Valencia County. (N.M. Coop. Rpt.).

TEXAS - H. postica larvae medium to heavy on alfalfa in Kent and Carson Counties. Controls applied in Carson County. (Geeslin, Fields). OKLAHOMA - Larvae decreased in alfalfa in most areas of southern half of State. Ranged 20-30 per square foot in Custer County. Still heavy in some northern counties; stubble treated. Adults heavy in many southwest and west-central counties. (Okla. Coop. Sur.). ARKANSAS - Active in alfalfa in northwest area. Little change in counts from previous period in untreated check plot on experiment station near Fayetteville, Washington County. Continued presence of small larvae indicates eggs hatched over extended period. Larvae collected in roadside vetch in Jefferson and Lonoke Counties. (Boyer).

MISSOURI - Average H. postica larval counts in south-central and central areas by county: Boone 1,239; Callaway 477; Lafayette 476; Miller 2,725; Saline 658. Alfalfa harvest complete in southern areas where weather favorable. Alfalfa for dehydration mills being harvested in northern areas. (Munson). KANSAS - Larvae generally decreased in cut, untreated alfalfa in Labette, Wilson, and Montgomery Counties to point some regrowth occurred. In northern portion of Wilson County, much larval feeding on regrowth still occurring in parts of fields where windrows present prior to bailing and regrowth limited to area between windrows. (Bell).

NEBRASKA - In 12 alfalfa fields sampled in Gothenburg and Cozad area of Dawson County, H. postica larvae ranged 1-677 and adults 2-30 per 100 sweeps. In Lexington and Overton area of Dawson County, adults ranged 0-14 (average 4.6) and larvae 15-162 (average 63.7) per 100 sweeps in 10 alfalfa fields. (Manglitz). In 2 fields in Johnson County, larvae ranged 65-140 (average 102.5) and adults 5-6 (average 5.5) per 100 sweeps. (Koinzan). IOWA - Most severe damage on alfalfa ever recorded in State observed in southern and southeastern counties. Larvae increasing. Larval counts per sweep by county May 17-18: Appanoose 1-3; Decatur 2-22; Lee 7-15; Van Buren 2-8; averaged less than 1 per sweep in Davis, Page, Ringgold, Taylor, and Wayne Counties. Damage evident in Lee and Van Buren Counties; tip damage ranged 50-82 percent. Treatments applied in Lee County. Most larvae second or third instars. (Iowa Ins. Sur.).

MINNESOTA - First *Hypera postica* larvae of season collected by vacuum machine at Rosemont experiment station April 23. Adults averaged 3 per 500 sweeps of alfalfa at St. Paul May 18. First larvae in southeast district found May 23 in Fillmore County; averaged 2 per 100 sweeps. Adults 4 per 100 sweeps in Houston County field. (Minn. Pest Rpt.). WISCONSIN - Generally light in alfalfa; damage expected to be minimal. Egg hatch insignificant, despite some heavy oviposition in some fields. Increased egg laying began this period, but cutting of alfalfa expected before noticeable damage occurs. Population collapse attributed to heavy parasitism by *Bathyplectes circulionis* (an ichneumon wasp) in 1972. Survey indicates some potential for heavy damage to alfalfa in sandy soiled areas near Wisconsin River; larvae mostly third and fourth instars in this area. Adults averaged about 4 per 50 sweeps; larval counts about same. (Wis. Ins. Sur.).

INDIANA - Half of observed fields in southern districts cut. Stubble treatments applied even where first crop treatments applied; damage due to early and late instar *H. postica* larvae. Heaviest infestations in northern districts occurred in Lagrange County; ranged 36-80 percent infested with about 2 larvae per terminal. Harvesting will probably preclude treatment in many northern district fields; second-crop damage expected. (Meyer). MICHIGAN - Young larvae present at Gull Lake, Kalamazoo County. Sparse, weedy alfalfa stands tended to have more larvae. (Casagrande). OHIO - Larval counts in clover and alfalfa by county: Hardin and Coshocton, less than 3 to 7 per 25 sweeps in clover; Logan, 5 per 25 sweeps in clover; Knox, 8-9 per sweep in alfalfa; Muskingum, 3-4 per sweep in alfalfa; Columbus, less than 2 per sweep in alfalfa. Oviposition decreasing. Larvae caused heavy damage to alfalfa in Knox and Columbus Counties. (Fox, Horn).

KENTUCKY - *H. postica* larvae decreased in alfalfa in southern areas. (Barnett). WEST VIRGINIA - Larvae caused 8 percent damage to alfalfa with 90 percent of 50 tips infested in Roane County. (Hedrick). VIRGINIA - Based on 6 fields sampled (50 acres) in 3 counties, average estimated defoliation 18.73 percent; 33 percent of fields exceeded threshold of 20 percent defoliation. (Snyder et al.). MARYLAND - Damage to alfalfa continued to increase beyond economic thresholds in Washington, Frederick, and upper Montgomery Counties. First cuttings delayed due to rains. Pupation continued statewide, but less than 10 percent to date. (U. Md., Ent. Dept.). NEW YORK - Eggs averaged 84.4 and 87.8 per square foot in 2 alfalfa fields in Tompkins County May 4, and 29.4 per square foot in Livingston County field May 10. First-instar larvae increased. (N.Y. Wkly. Rpt., May 21).

PEA APHID (*Acyrthosiphon pisum*) - NEW MEXICO - Generally moderate on alfalfa at Los Lunas, Valencia County. (N.M. Coop. Rpt.). KANSAS - Moderate in alfalfa in Morris and Chase Counties. (Bell). NEBRASKA - Increased in alfalfa, ranged 523-600 per 100 sweeps in 2 fields in Johnson County. (Koinzan). MINNESOTA - Counts variable in southeast district alfalfa, ranged 0-400 per 100 sweeps. Winged forms appeared in trace numbers in some fields in Houston, Fillmore, and Olmsted Counties. (Minn. Pest Rpt.). WISCONSIN - Remains light in alfalfa, heaviest counts averaged about one per sweep. Winged forms increased. (Wis. Ins. Sur.). ARKANSAS - Increased slightly in alfalfa in northwest area. (Boyer). KENTUCKY - Populations seem stabilized or decreasing in alfalfa in southern areas. (Barnett). NEW JERSEY - Heavy in one Mercer County alfalfa field; no problem anticipated. (Neuberger).

MEADOW SPITTLEBUG (Philaenus spumarius) - MINNESOTA - Young nymphs formed spittle masses on upper leaves of alfalfa; ranged 0-22 nymphs per 100 sweeps in southeast district. Spittle masses averaged one per 5 stems in few fields. (Minn. Pest Rpt.). MISSOURI - Light in all alfalfa checked in north-central and northeast areas. Ranged 3-12 nymphs per 100 stems in most fields; averaged 29 nymphs per 100 stems at one site. (Munson). KENTUCKY - Populations heavy and increased in Allen and Simpson Counties. Adults averaged 300 per 100 sweeps of alfalfa. (Barnett).

VARIEGATED CUTWORM (Peridroma saucia) - OKLAHOMA - Heavy in alfalfa checked in Stephens and Grady Counties. Damage continued on alfalfa, gardens, and ornamentals in many west-central counties. (Okla. Coop. Sur.).

ALFALFA LOOPER (Autographa californica) - NEVADA - Young larvae ranged 0-4 (average 2) per sweep in alfalfa seed fields at Orovada, Humboldt County. (Stitt).

ALFALFA LEAF BLOTCH-MINER (Agromyza frontella) - VERMONT - Heavy on alfalfa in Chittenden County; leaf punctures apparent. No evidence of flies in Orange County alfalfa fields. (Nielsen). NEW YORK - Active in alfalfa. Feeding and egg laying observed in Otsego County, central area; no mines seen. (N.Y. Wkly. Rpt., May 21).

BROWN WHEAT MITE (Petrobia latens) - NEVADA - Infested seed alfalfa, being especially heavy in drier parts of fields, at Jungo, Humboldt County. (Stitt).

A SPRINGTAIL (Sminthuris dorsalis) - NORTH DAKOTA - Ten per 100 sweeps of alfalfa in Bowman and Slope Counties. These are new county records. (Brandvik).

COTTON

BOLL WEEEVIL (Anthonomus grandis) - TEXAS - Traps in Coryell and Hill Counties indicate weevils increased in seedling cotton. Average trap catches 6.4 and 1.6 weevils per trap in these counties. Heavy increase in weevils in pheromone traps noted in Calhoun County. Catches expected to decline rapidly as cotton begins to grow. Although cotton not up in Rollings Plains area, weevils taken on pheromone traps in several counties. No weevil activity noted in Hall, Knox, and Jones Counties. Catches increased in Taylor, Tom Green, and Runnels Counties. (Hoelscher et al.). OKLAHOMA - First of season taken in Leggett traps in Jackson, Washita, and Caddo Counties. (Okla. Coop. Sur.). ARKANSAS - Number of weevils taken in Leggett traps variable as shown by catches in 10 traps each in following counties: Clay 78, Mississippi 18, Phillips 105, Chicot 7, Conway 3. (Boyer).

MISSISSIPPI - Leggett trap catches of A. grandis in Webster County indicate weevils moving from overwintering quarters. Average counts per trap by county as follows: Webster 29.7 (19 traps); Grenada, 7.7 (15 traps); Yalobusha, 12 (20 traps). In Bolivar County near Scott, 5 weevils taken in 186 traps. (Robinson). ALABAMA - Live weevil counts on 9 farms in Covington, Monroe, and Montgomery Counties light; two weevils collected on 2 farms in Covington County at rate of 14 and 18 per acre. (Pike et al.).

BEET ARMYWORM (Spodoptera exigua) - NEW MEXICO - Scattered infestations on cotton in Dona Ana County. (N.M. Coop. Rpt.).

CUTWORMS - MISSISSIPPI - Peridroma saucia (variegated cutworm) and Agrotis ipsilon (black cutworm) larvae damaged 470 acres in Sunflower County; 30-40 acres replanted. (C. Black, R. Black).

WESTERN FLOWER THRIPS (Frankliniella occidentalis) - ARIZONA - Heavily infested one cotton field at Safford, Graham County. (Ariz. Coop. Sur.).

POTATOES, TOMATOES, PEPPERS

POTATO FLEA BEETLE (Epitrix cucumeris) - OHIO - Adult damage moderate to tomatoes in Marietta area, Washington County. Damage moderate to heavy on potatoes in same area. (Sleesman).

GREEN PEACH APHID (Myzus persicae) - WYOMING - Light to heavy on tomatoes and peppers in Albany, Goshen, and Laramie Counties. (Daiss).

COLE CROPS

CABBAGE LOOPER (Trichoplusia ni) - FLORIDA - Larvae very abundant and caused heavy ragging of collard leaves in Palm Beach County. Polyhedrosis virus brought larvae under control so that only minimum injury occurred directly on heads. (Fla. Coop. Sur.).

CUCURBITS

STRIPED CUCUMBER BEETLE (Acalymma vittata) - MARYLAND - Adults active in watermelon and cantaloupe fields in Dorchester and Wicomico Counties. Damage light to date. Most growers held off sprays due to rain. Sprays expected in all fields within next 7 days. (U. Md., Ent. Dept.).

GENERAL VEGETABLES

ASPARAGUS BEETLES (Crioceris spp.) - VIRGINIA - C. asparagi (asparagus beetle) and C. duodecimpunctata (spotted asparagus beetle) feeding and laying eggs on asparagus at Blacksburg, Montgomery County, May 24. (Kosztarab). MICHIGAN - C. asparagi and C. duodecimpunctata very active and ovipositing in Oceana County asparagus fields. Fields should be checked and treated where necessary. (Sauer).

CABBAGE LOOPER (Trichoplusia ni) - NEW MEXICO - Generally light to medium in lettuce in Dona Ana County; treatments applied. (N.M. Coop. Rpt.).

A CUTWORM (Abagrotis barnesi) - NEVADA - Averaged 10 per leaf on rhubarb plants with heavy damage at Lovelock, Pershing County. (Melis, Munk).

DECIDUOUS FRUITS AND NUTS

ALFALFA WEEVIL (Hypera spp.) - Unusual, unpredicted, and damaging situation developed on cherries in Stockton area of San Joaquin County and Brentwood area of Contra Costa County. Newly emerged adults in mass flights into cherry orchards, where cherries ripening; fed and mined into fruit. Doubles and close-contact clusters seem most damaged. Growers concerned as damage equivalent to bird picks plus wet frass. In some orchards, damage near 5 percent. Harvest still 2-10 days away. Cullage may reach 25 percent in few instances. Weevils have always been host specific on clovers and alfalfa. Adults leaving alfalfa and moving into nearby orchards, normally move to windrows, bark of trees, and onto and into buildings for summer aestivation. Populations heavier in centers of orchards than in margins; probably due to interior of orchard being cooler. Probably mostly H. brunneipennis (Egyptian alfalfa weevil). No apparent population pressure in nearby alfalfa fields. In past few days apricots in Contra Costa County also involved. Bean growers in Tulare County experiencing damage this season for first time ever. (Cal. Coop. Rpt.).

CODLING MOTH (Laspeyresia pomonella) - NEW MEXICO - Moderate flights of male moths noted in pheromone traps in apple orchards in Lincoln, Chaves, Otero, De Baca, Rio Arriba, Valencia, and Sandoval Counties. (Durkin). MICHIGAN - Spring emergence began May 18-20 in southwest area. Adults appeared in sex lure traps from Berrien County to Ionia County. (Sauer).

LESSER PEACHTREE BORER (Synanthedon pictipes) - MICHIGAN - Partially emerged moth found May 24 in abandoned peach orchard near Berrien Springs, Berrien County. Expect routine seasonal emergence next week. Peak emergence usually occurs about mid-June in southern counties and early July in northern areas. (Sauer).

GREEN PEACH APHID (Myzus persicae) - OREGON - Very heavy on peach trees in various parts of Treasure Valley. In Ontario area, Malheur County, traps attracting heaviest number of aphids recorded for this early in season, indicating unusually high aphid movement. (Henninger).

EUROPEAN RED MITE (Panonychus ulmi) - MICHIGAN - Second-generation eggs numerous on leaves in orchards where weather interfered with satisfactory prebloom mite control. (Sauer). CONNECTICUT - Heavy infestation in fruit trees in East Lyme, trace in Storrs; many eggs noted in New Haven. (Kersting).

PECAN NUT CASEBEARER (Acrobasis caryae) - TEXAS - Control applications should be made in Blacklands area May 24-30 based on "hatchout" of pupae as well as pecan grove observations in Earth and surrounding counties. In Rolling Plains area, moths emerged in Jones, Young, Wichita, Baylor, Wilbarger, and Archer Counties. Controls anticipated by May 31-June 4 in Rolling Plains area. (Green). NEW MEXICO - Infested new growth of pecan trees in Eddy and Chaves Counties. (Marek, Chappell).

PECAN PHYLLOXERA (Phylloxera devastatrix) - ALABAMA - Damaging populations developed on pecans over wide area in Dallas County. Some growers treated with little success. (Hines).

SMALL FRUITS

STRAWBERRY WEEVIL (*Anthonomus signatus*) - MARYLAND - Adults heavily damaged 30 acres of strawberries near Salisbury, Wicomico County. Sprays applied too late to save crop. (U. Md., Ent. Dept.).

A GEOMETRID MOTH (*Itame argillacearia*) - NEW HAMPSHIRE - Third-instar larvae infested 300 acres of lowbush blueberries at Alton and Gilford, Strafford County; caused extensive damage. (Bauman).

CURRANT BORER (*Syanthedon tipuliformis*) - OREGON - Adults averaged 3 per 25 sweeps in 6-acre planting of currants at Cornelius, Washington County. (Collins).

FOREST AND SHADE TREES

DOUGLAS FIR TUSSOCK MOTH (*Hemerocampa pseudotsuga*) - OREGON - Larvae began to hatch in foothills of Mt. Emily near LaGrande, Union County. Treatment planned for 25,000-40,000 acres in LaGrande area; first to begin within next 7 days. All timberlands to be treated are privately owned. (Larson).

SOUTHERN PINE BEETLE (*Dendroctonus frontalis*) - MISSISSIPPI - Volumes of beetle-killed salvaged wood in State through March totaled 228,000 board feet on State land and 2,048,000 board feet on Federal land. (Miss. For. Comm.).

PINE SPITTLEBUG (*Aphrophora parallela*) - FLORIDA - Adult taken in blacklight trap in pine-hardwood forest at Gainesville, Alachua County. This is first record of season in State. (Fla. Coop. Sur.).

A CONIFER SAWFLY (*Neodiprion pratti pratti*) - WEST VIRGINIA - Collected on pitch pine in Calhoun County by J.M. Atkins. Determined by A.R. Miller. This is a new county record. (Hacker).

SPRING CANKERWORM (*Paleacrita vernata*) - INDIANA - Defoliation of Moraine honeylocust, an unusual host for this species, noted in Tippecanoe County. (Schuder). SOUTH DAKOTA - This species and *Alsophila pometaria* (fall cankerworm) infested elms in windbreaks and shelterbelts throughout State. Damage on elms reported from Jones County to Minnehaha County. Infestations in Charles Mix County ranged light (5-10 larvae per 2 feet of twig) to heavy (15-20 per 2 feet of twig). Infestations treated; some may require second treatment. (Jones). NEBRASKA - *P. vernata* and *A. pometaria* damaged shade trees statewide, with much control underway. Heavy infestations reported in Lancaster, Hall, Lincoln, Holt, and Boone Counties. (Roselle et al.).

LARCH CASEBEARER (*Coleophora laricella*) - MAINE - Populations seem heavier than previous years. Very heavy damage reported May 18 on about 10 acres in Weeks Mills but casebearer pupating. Heavy along U.S. Route 6 at Springfield, Carroll, Lincoln, and Lee areas. Light infestations widespread. (Gall).

EASTERN TENT CATERPILLAR (*Malacosoma americanum*) - MARYLAND - Infestations this season lightest of past 4 years statewide. In areas east of Frederick County, pupation underway and damaged trees recovering. (U. Md., Ent. Dept.).

ELM LEAF BEETLE (Pyrrhalta luteola) - NEW MEXICO - Adults damaged new growth on Siberian elms in Alburquerque, Bernalillo County. (N.M. Coop. Rpt.). TEXAS - Larvae fed on elms in north-central counties. (Turney). MISSOURI - Larval damage to elms reported from southeast, south-central, and southwest areas. (Munson).

MAN AND ANIMALS

SCREWWORM (Cochliomyia hominivorax) - Total of 69 confirmed cases reported in the continental U.S. during period May 13-19 as follows: Texas 6, New Mexico 4, Arizona 57, California 2. Total of 698 cases confirmed from Mexico. Number of sterile flies released in U.S. during this period totaled 93,604,050 as follows: Texas 78,712,000; New Mexico 2,917,500; Arizona 11,253,750; California 720,000. Total of 76,852,050 sterile flies released in Mexico. (Anim. Health).

FACE FLY (Musca autumnalis) - MARYLAND - Populations stable; ranged 10-40 adults per head on beef and dairy stock. (U. Md., Ent. Dept.). OHIO - Generally light on beef and dairy cattle in central area; heaviest count averaged 7 per face on Hereford cattle in Champaign County. (Fox).

MOSQUITOES - MAINE - Most single-generation Aedes species pupated, many adults emerging. Some biting reported in southern half of State. (Gall). OHIO - Larval survey in Huron County May 14 and 15 showed Culex pipiens pipiens and C. restuans to be 4 times as common as A. canadensis and A. vexans. Only few Culiseta inornata recovered in area. About 14 days of sustained warm weather may result in large scale adult emergence. (Dept. Health). ARKANSAS - Psorophora confinnis very light to date, but numbers will likely increase rapidly next few weeks as few rice fields up to stand and being flooded. Few Culex spp. larvae present in roadside ditches. (Boyer). WISCONSIN - Mosquitoes biting week ending May 19; increased gradually; currently severe in some lowland areas. Biting should intensify next several weeks. Light annoyance to dairy cattle reported in Polk, Burnett, and Chippewa Counties. (Wis. Ins. Sur.).

MINNESOTA - Heavy rains during week of May 21 resulted in heavy hatch of Aedes vexans in parts of Ramsey, Washington, Anoka, Hennepin, and Dakota Counties. Hatch light in other parts of these counties. A. vexans brood that hatched first week of May now in pupal stage with some adult emergence. Emergence of single-brooded spring Aedes spp. now about complete. (Minn. Pest Rpt.). ARIZONA - A. vexans and Culex tarsalis moderate to heavy from north of Dateland to Dome Valley along Gila River Bed. City of Yuma expected to have heavy infestations next few weeks. (Ariz. Coop. Sur.). NEVADA - Aedes spp. adults heavy in McDermitt area, Humboldt County. (Lauderdale). CALIFORNIA - Orthopodomyia signifera larvae taken from large water-filled hole in cottenwood tree by K. Hansgen in Ione, Amador County. This species is vicious biter. Tree-hole sources often missed as source of infestation. This is new area of infestation. (Cal. Coop. Rpt.).

HORN FLY (Haematobia irritans) - MARYLAND - First adults of season found on dairy stock in Caroline and Queen Annes Counties. Ranged 10-80 per head in 3 herds of 200 head. (U. Md., Ent. Dept.). FLORIDA - Adults averaged 271 per animal on beef cattle at Gainesville, Alachua County. (Fla. Coop. Sur.). ALABAMA - Continued to increase on cattle in Wilcox County. (Farquhar). MISSISSIPPI - Average counts per head on various breeds in Oktibbeha County: Angus 1,100; Barzona 1,000; Santa Gertrudis 1,000; Polled Hereford 1,500; Horned Hereford 800. (Combs). OKLAHOMA - Ranged 200-500 per head on cattle in Major County. Moderate to heavy in Carter and Marshall Counties and moderate in Pawnee, Kiowa, Garvin, and Pontotoc Counties. (Okla. Coop. Sur.).

TEXAS - Ranged 50-100 per animal in Fort Bend County. Generally widespread and heavy on cattle in Guadalupe County. Heavy and widespread in San Marcos County; ranged 1,800-2,500 per animal. Increased in many Blacklands, North Central, and Rolling Plains counties. Heavy on cattle in Shackelford County, moderate in Wilbarger, Knox, and Clay Counties. Light to heavy in McCulloch, Gillespie, Llano, Irion, Blanco, and Mason Counties. (Green et al.). NORTH DAKOTA - Populations heavy for time of year on cattle in southwestern counties. Counts averaged 100 per animal on beef cows on range in Slope and Billings Counties. (Brankvik).

STABLE FLY (Stomoxys calcitrans) - WISCONSIN - Light annoyance to cattle reported in Chippewa, Polk, and Burnett Counties; none noted on dairy heifers in Waushara County. (Wis. Ins. Sur.). TENNESSEE - Populations built up in central area. Counts in Warren County ranged 2-5 per head. (Gordon).

TURKEY GNAT (Simulium meridionale) - FLORIDA - Heavy at Blountstown, Calhoun County; adult bites caused death of young chicks on farm. (Fla. Coop. Sur.).

LONE STAR TICK (Amblyomma americanum) - OKLAHOMA - Moderate to heavy on cattle in Pawnee, Pontotoc, and Marshall Counties. (Okla. Coop. Sur.).

MISCELLANEOUS WILD PLANTS

PAINTED LADY (Cynthia cardui) - CALIFORNIA - Adult flights heavy in Fresno area. Motorists complained about dirty windshields. Females heavy with eggs. Cool days and nights this period slowed major flight. Adult numbers increased in coastal areas. (Cal. Coop. Rpt.). NEVADA - Larval migrations caused concern to residents of Hualapai Valley, Washoe County. (Spoo). Larvae heavy on thistle in Verdi area, Washoe County. (Adams et al.). WASHINGTON - Heavy adult migration observed at Yakima May 17. (Landis). Heavy adult flights and larval feeding on Canada thistle seen May 23 in Othello and Warden areas of Grant and Adams Counties. (Hunter). IDAHO - Large migratory flights reported in many northern areas May 18-23. Adult migration began May 16 and continued northward May 17 through Canyon County. Very often up to 100 butterflies per minute passed given point 100 feet in width. SOUTH DAKOTA - Adults heavy, observed in migratory flight in Moody, Lake, Brookings, and Minnehaha Counties. (Jones). NORTH DAKOTA - Heavy migration noted in southwestern counties. Movement appeared to be from southwest to northeast with heaviest flights around Dickinson area. (Brandvik).

BENEFICIAL INSECTS

ICHNEUMON WASPS - MICHIGAN - Adults of *Lemophagus curtus* and *Diaparsis* n. sp., larval parasitoides of *Oulema melanopus* (cereal leaf beetle), collected from emergence trap in Berrien County by T.L. Burger May 13, 1973. Determined by J.R. Coulson. (PPQ). OHIO - *Bathyplectes curculionis* parasitized about 80 percent of *H. postica* larvae in Columbus County alfalfa field. (Horn, Flessel).

A BRACONID WASP - OHIO - *Microctonus colesi* recovered April 20 from *Hypera postica* (alfalfa weevil) adults collected in Franklin County. This is a new county record. (Horn).

A CHALCID WASP (*Brachymeria intermedia*) - WEST VIRGINIA - Adults of this pupal parasite of *Porthetria dispar* (gypsy moth) released in Jefferson, Berkeley, Hampshire, Pocahontas, and Hardy Counties. (Hacker).

FEDERAL AND STATE PLANT PROTECTION PROGRAMS

CEREAL LEAF BEETLE (*Oulema Melanopus*) - VIRGINIA - Small larvae collected on winter wheat in Augusta County May 16 by W.D. Jones. (Allen). WEST VIRGINIA - Larvae averaged 3 per square foot in oats in Putnam County, 4 per square foot in oats in Jackson County. (Hacker). Eggs averaged 7 per square foot and larvae 11 per square foot in oats in Mason County. (Holler). KENTUCKY - Adults, larvae, and eggs collected on small grains in Grant County May 17. Surveys negative in Christian, Hopkins, McLean, Muhlenburg, Todd, Union, and Webster Counties. (Greene et al.). TENNESSEE - Immatures found on Pickett County small grains. Feeding signs difficult to find; populations very light. Numbers greatly reduced compared to 1972 when *O. melanopus* first found in State. (Gordon). MICHIGAN - Adults averaged at least 1 per sweep in Berrien County wheat fields with counts up to 3 per sweep in some cases. Larvae still scarce in these fields. One wheat field near Berrien Springs had at least 1 egg per stem. Population at Gull Lake, Kalamazoo County, at lowest point in last 5 years. (Casagrande, Webster).

GRASS BUGS - UTAH - Several hundred *Labops hesperius* per sweep taken in some crested wheatgrass areas in Wanrhodes Canyon, Utah County; 10 percent adults May 15. First through third-instar nymphs, including *Irbesia* sp., very numerous in Major Flat area, Sanpete County. *L. hesperius* averaged 120 per sweep in Salina Canyon, Sevier County. (Haws). COLORADO - *Irbisia* sp. very numerous on intermediate wheatgrass in Custer County. Controls applied. (Hantsbarger). NEBRASKA - *L. hesperius* heavy in 5 to 6-square-mile area of Scotts Bluff and Banner Counties. Mature bugs ranged 433-1,030 per 10 sweeps in several wheatgrass pastures. Moving into adjacent wheat. Damage expected to continue for another 7-10 days. (Hagen).

GRASSHOPPERS - WASHINGTON - Economic populations of *Melanoplus sanquinipes*, *M. packardii*, *M. bivittatus*, *Oedaleonatus enigma*, and *Aulocara elliotti* developed throughout eastern part of State. In Franklin County, grasshoppers moved into irrigated crops on several farms. Ranged up to 25 per square yard in alfalfa. Ranchers organized cooperative control program on about 200,000 acres of rangeland in Franklin and Benton Counties; treatment to begin June 5 or 6. Ranged 20-30 per square yard May 16 near Wilson Creek and

Coulee City, Grant County. (Foeppel). OREGON - Grasshoppers, mainly *Oedaleonotus enigma*, economic on 23,000 acres of rangeland in Morrow and Umatilla Counties where heavy populations found in 1972. About 1,200 acres delimited in Umapine area. Heavy in crops, mainly alfalfa and potatoes, in these counties. Extremely light in Grant, Gilliam, Wallowa, and parts of Malheur Counties. Sporadic counts of up to 50 per square yard noted in some areas of Malheur County. (Goeden, Brown).

NEVADA - Grasshoppers, mostly first-instar nymphs of *O. enigma*, ranged 2-4 per square yard on 5,000 acres of rangeland near Upper Clover Ranch, Elko County. (Giles, May 18). Over 90 percent first-instar nymphs averaged 11 per square yard along field and road margins and 2 per square yard on rangeland in Orovada area, Humboldt County, except for 300 acres near Home Ranch which averaged 50 per square yard. Averaged 25 per square yard on pastureland and field margins and 1+ per square yard in alfalfa in northeastern part of Kings River Valley, Humboldt County. Averaged one per square yard in Paradise Hill area. *O. enigma* (50 percent), *M. bivittatus* (25 percent), and *M. sanguinipes* (25 percent) averaged less than one per square yard in Paradise Valley, Humboldt County. (Wilson, et al.). WYOMING - Hatch of *Aulocara elliotti*, *Amphitornus coloradus*, *Ageneotettix deorum*, and *M. confusus* light in Goshen and Platte Counties. (Hardy).

JAPANESE BEETLE (*Popillia japonica*) - VERMONT - Larvae averaged 1 per square inch in Bellows Falls athletic field; appear to be resistant to treatment made. (Nielsen).

WHITEFRINGED BEETLES (*Graphognathus* spp.) - ALABAMA - Larvae of these pests and *Elasmopalpus lignosellus* (lesser cornstalk borer) destroyed 5-acre field of corn in Covington County. (Linder).

DETECTION

New State Record - A THRIPS (*Oedaleothrips hookeri*) - CALIFORNIA - Adults collected from garden in Kneeland, Humboldt County, by T. Haig April 24, 1973. Determined by T. Kono. Confirmed by K. O'Neill. No host given. (Cal. Coop. Rpt.).

New County Records - A BRACONID WASP (*Microctonus colesi*) OHIO - Franklin (p. 325). A CONIFER SAWFLY (*Neodiprion pratti pratti*) WEST VIRGINIA - Calhoun (p. 322). A SPRINGTAIL (*Sminthuris dorsalis*) NORTH DAKOTA - Bowman, Slope (p. 319).

HAWAII INSECT REPORT

General Vegetables - DIAMONDBACK MOTH (*Plutella xylostella*) larvae moderate to heavy on mustard cabbage planting at Pearl City, Oahu; 15 percent of larvae collected were parasitized by *Diadegma insularis* (an ichneumon wasp). Larvae negligible to trace in all other mustard cabbage plantings on Oahu. (Otsuka).

Forest and Shade Trees - Surveys in Wailuku and Makawao areas on Maui revealed backyard infestations of an ADELGID (*Pineus pini*) on potted pine plants at several residences. All infested plants sprayed. In spite of these finds, it appears eradication of this pine pest can be acheived on the Island of Maui. (Miyahira). Adults and larvae of a BARK BEETLE (*Xylosandrus compactus*) heavy on branches of lantana (*Eucalyptus robusta*) and Java plum at Kalepa Ridge in Lihue and on Nounou Mountain in Kawaihau, Kauai. Dieback of lateral branches due to moderate larval infestations noted on native Hawaiian persimmon (*Diospyros* sp.) and olomea (*Perrottetia sandwicensis*) on Mt. Kaala, Oahu. (Sugawa, Rose). A CONIFER APHID (*Cinara carolina*) heavy on terminals of slash pine (*Pinus elliottii*) at Poli Poli Springs, Kula, Maui, and in Hanalilolilo and Pepeopae areas of Molokai Forest Reserve, Molokai. (Rose). Larvae of a NOCTUID MOTH (*Melipotis indomita*) heavy under flaky bark of kiawe at Lahaina, Maui; damage to foliage light. Larvae light on kiawe at Kahului and Kihei. Few larvae found under debris at bases of young monkey-pod trees at Wahiawa and Port Allen, Kauai. (Ah Sam, Sugawa).

Miscellaneous Insects - Single male specimen of a VESPID WASP (*Vespula vulgaris*) collected above Olinda, Maui, at elevation of 1,200 meters January 23, 1973, by F.G. Howarth. Determined by A.S. Menke. This species is widespread in Nearctic and Palearctic Regions and occurs in New Zealand. (Howarth).

LIGHT TRAP COLLECTIONS

	Tempera-ture °F.	Precip-itation (inches)	Type of trap (BL - blacklight, I = incandescent, MV = mercury vapor, O = other)	Agrotis ipsilon (black cutworm)	Estigmene acrea (saltmarsh caterpillar)	Euxoa auxiliaris (army cutworm)	Faronta diffusa (wheat head armyworm)	Peltia subterranea (granulate cutworm)	Heliothis virescens (tobacco budworm)	H. zea (bollworm, corn earworm, tomato fruitworm)	Laspeyresia pomonella (codling moth)	Loxostege commixtalis (alfalfa webworm)	Loxostege rantalis (garden webworm)	Loxostege sticticalis (beet webworm)	Manduca quinquemaculata (tomato hornworm)	Manduca sexta (tobacco hornworm)	Ostrinia nubilalis (European corn borer)	Peridroma saucia (variegated cutworm)	Pseudaletia unipuncta (armyworm)	Spodoptera exigua (beet armyworm)	Spodoptera frugiperda (fall armyworm)	Spodoptera ornithogalli (yellowstriped armyworm)	Trichoplusia ni (cabbage looper)	Crops
ARKANSAS																								
Kelso 5/16-22			BL	1						1									1					
Pickens 5/16-22			BL	43					5	21								9						
Tomberlin 5/16-22			BL						1	26														
INDIANA (Counties)																								
Lawrence 5/10-16			BL		3														4					
Randolph 5/10-16			BL	1	11														15					
KANSAS (Counties)																								
Barton 5/10-21			BL	1															225			1	10	
Republic 5/23			BL				9											3	3					
Stafford 5/21			BL				1																	
KENTUCKY																								
Lexington 5/17-24			BL	1															1					
MINNESOTA																								
Crookston 5/24-30			BL																1					
Worthington 5/24-30			BL																1					
NEBRASKA (County)																								
Clay 5/17-24			BL	7			25												22					
WEST VIRGINIA (Counties)																								
Harrison 5/9			BL																1					
Mason 5/9, 15, 21			BL															1	4					
WISCONSIN																								
Hancock 5/17-22			BL	1														1	1					
Lancaster 5/17-22			BL																3					
Mazomanie 5/17-22			BL																1					

A Leafminer of Ragweeds (*Ambrosia* spp.), *Calycomyza ambrosiae* (Frick) (Diptera, Agromyzidae)

George C. Steyskal [1]

The species was described as *Phytobia* (*Calycomyza*) *ambrosiae* by Frick (1956:299) from specimens reared from *Ambrosia artemisiifolia* L. and *A. trifida* L. in Tennessee, Indiana, Pennsylvania, and Florida. The mine in leaves of *A. artemisiifolia* was figured by Stegmaier (1967). No further data have been available until I received for determination three specimens from California reared or captured on *Ambrosia confertiflora* DC. (reared: Hollywood, Los Angeles County, June 14, 1970, and Otay, San Diego County, April, 8, 1970; captured: Beaumont, Riverside County, April 2, 1970). These were all taken by Richard D. Goeden and D.W. Ricker of the Division of Biological Control, University of California, Riverside, California.

The species is thus of far greater distribution than has heretofore been suspected and affects at least three species of *Ambrosia*. It may therefore well be considered a likely prospect for biological control of these weeds.

Calycomyza is considered by most workers on Agromyzidae at present as being of generic rank. Keys to North American species, including *C. ambrosiae*, are by Frick (1956, 1959). Other pertinent keys, such as those by Spencer (1963, neotropical; 1969, Canada and Alaska), do not include *C. ambrosiae*. The group of species to which *C. ambrosiae* belongs has been termed the "malvae group." Species of that group cannot be determined satisfactorily on external characters, but characters of the leaf-mine in association with the species of host plant or those of the male postabdomen are needed.

Inasmuch as no figure of the male postabdomen of *C. ambrosiae* has been published, a male from Otay, California, was prepared and compared with the postabdomen of the type specimen from Tennessee. No differences were noted. The postabdomen of the California specimen is shown in the accompanying figure.

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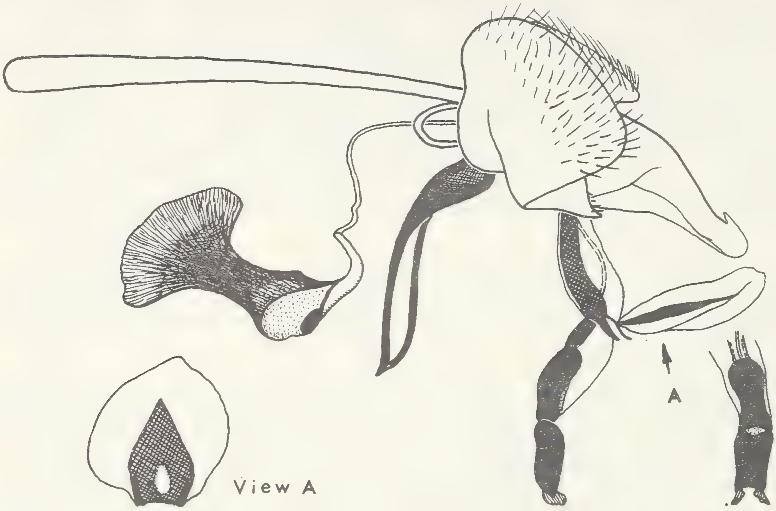

Calycomyza ambrosiae (Frick). Left lateral view of male post-abdomen.

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The Genus *Emmesomyia* Malloch in North America

(Diptera, Anthomyiidae)

George C. Steyskal 1/

Two species of the genus *Emmesomyia* are listed in the North American catalogue of Diptera (Stone et al., 1965:858): *E. apicalis* Malloch, 1917, and *E. socialis* (Stein), 1898. It has become evident recently that these are merely color varieties and that *E. apicalis* should be considered a junior synonym of *E. socialis*.

Another species, *E. socia* (Fallen), was recorded for the first time from North America in this journal (1971, CEIR 21:5). In the latest fascicle on the palaearctic species of Anthomyiidae (Hennig, 1972:450) it is shown that 2 species have been confused under the name *E. socia* for a long time. Reexamination of the specimens recorded as *E. socia* from North America shows that they are not the true *E. socia*, but a species that should be called *Emmesomyia villica* (Meigen).

The 2 species of *Emmesomyia* now known to occur in North America may be distinguished as follows:

(a) Femora at least in considerable part yellowish; 5th sternum of male with posteriorly directed lobes (fig. A).....*E. socialis* (Stein).

(b) Femora black, only extreme apex yellowish; 5th sternum of male with downcurved apical lobes (fig. B).....*E. villica* (Meigen).

The only available data on the biology of species of *Emmesomyia* consist in the record of the rearing of *E. villica* from cells of the wasp *Oxybelus uniglumis quadrinotatus* cited previously in these Reports and some notes cited by Hennig (1972:453) indicating that either *socia* or *villica* or both may develop in human feces in Europe.

Literature Cited

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For illustrations see page 332.

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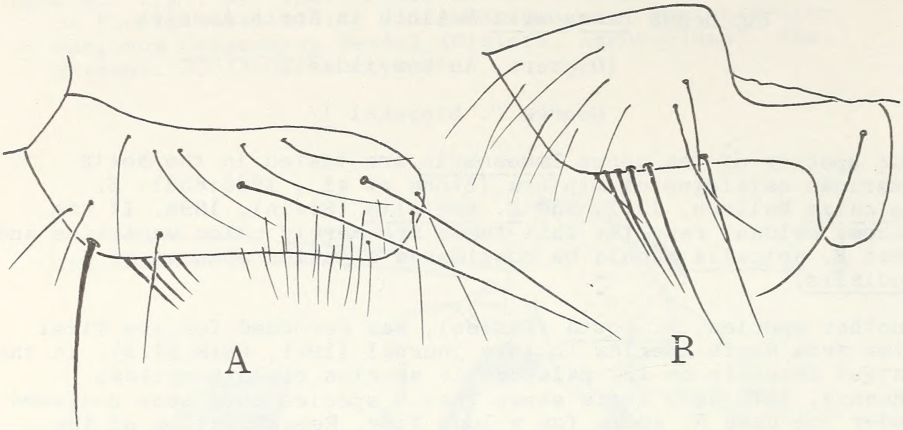

Lateral view of lefthand side of 5th sternum of males of *Emmesomyia* species.

A - *E*. *socialis* (Stein); B - *E*. *villica* (Meigen).

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